

SEQUENCE LISTING

<110> Allen, Steve
Hitz, Bill
Kinney, Tony
Tingey, Scott

<111> Plant Sugar Transport Proteins

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 Leu Val Arg Gly Ser Glu Ile Ser Val Asp Glu Arg Leu Gly Gly Asn
 50 55 60
 Asa Ser Pro Ala Met Ala Gly Ala Val Leu Val Ala Ile Ala Ala Ser
 65 70 75 80
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 85 90 95
 Val Leu Tyr Ile Lys Lys Glu Phe Asn Leu His Ser Asp Pro Leu Ile
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Pro Thr Thr Val Arg Gly Ile Cys Ile Ala Ile Cys Ala Leu Thr Phe
50 55 60
Trp Ile Gly Asp Ile Ile Val Thr Tyr Thr Leu Pro Val Met Leu Asn
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Ala Ile Gly Leu Ala Gly Val Phe Gly Ile Tyr Ala Val Val Cys Ile
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 Gly Gln Ser Ser Ile Gly Leu Ala Ser His His Gly Ser Ile Ile Asn
 275 280 285
 Gln Ser Met Pro Leu Met Asp Pro Leu Val Thr Leu Phe Gly Ser Ile
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 Leu Met Gln Gly Ser Gly Glu Gln Gly Gly Ser Thr Gly Ile Gly Gly
 405 410 415
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 Thr Ala Ser Lys Gly Pro Ser Trp Lys Ala Leu Leu Glu Pro Gly Val
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 Lys His Ala Leu Val Val Gly Val Gly Ile Gln Ile Leu Gln Gln Phe
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 Ser Gly Ile Asn Gly Val Leu Tyr Tyr Thr Pro Gln Ile Leu Glu Glu
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 675 680 685
 Gly Val Phe Ala Ile Tyr Ala Val Val Cys Phe Ile Ser Trp Ile Phe
 690 695 700
 Val Phe Leu Lys Val Pro Glu Thr Lys Gly Met Pro Leu Glu Val Ile
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 Ser Glu Phe Phe Ser Val Gly Ala Lys Glu Ala Ala Ser Ala Lys Asn
 725 730 735

Glu

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 1111 1692
 1112 DNA
 1113 Glycine max

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 Gly Ser Leu Leu Glu Arg Arg Ser Cys Arg Asp Pro Trp Trp Arg Gly
 50 55 60
 Gly Lys Lys Met Ser Gly Ala Ala Leu Val Ala Ile Ala Ala Ser Ile
 65 70 75 80
 Gly Asn Leu Leu Gln Gly Trp Asp Asn Ala Thr Ile Ala Gly Ala Val
 85 90 95
 Leu Tyr Ile Lys Lys Glu Phe Gln Leu Glu Asn Asn Pro Thr Val Glu
 100 105 110
 Gly Leu Ile Val Ala
 115

<210> 13
 <211> 1487
 <212> DNA
 <213> Triticum aestivum

<400> 13
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 gaattctactt gcaccaagag ggggttggcg actcaagaag gggctctgtt gtttcaacttc 180
 ctgggtggggg tgatgccacg caagggggca gtgggtttat acatgctgtt gcttttgtaa 240
 gccactcggc tctttaactc aaggatctta tgggaagagcg tatggcgggc ggtccagcca 300
 tgaattcatcc attggaggca gctcccaaag gttcaatctg gaaagatctg tttgaacctg 360
 gtgtgaggcg tgcattgttc gtccgtgttg gaattcagat gottcagcag tttgctggaa 420
 taaatggagt tctctactat actcctcaa ttctggagca agctgggtgtg gctgttcttc 480
 tttccaatct tggcctcagt tcagcatcag catccatctt gatcagttct ctaccacct 540
 tactcatgct cccaagcatt ggtgtagcca tgagacttat ggatatatct ggaagaaggt 600
 ttctgctact gggcacaatt cccatcttga tagcatcctt aattgttttg ggtgtggtea 660
 atgttatcaa cttgagtagc gtgccccagc ctgtgctctc cacagtttag gtcattgtct 720
 acttctctg ctttctcatg ggttttggcc cgtatccccaa cattctatgt gcagagattt 780
 tccccaccag agtccgtggt gtctgcctgc ctatttgccc cctcacattc tggatttgtg 840
 acattattgt tacctacagc ctgcctgtga tgcctgaatgc tattggtota gcgggtgtct 900
 ttggtatata tgcagtcgtt tgcctgattg cttttgtgtt cgtctacctt aaggtcccag 960
 agacaaaggg catgcccctc gaggtcatca ccgagttctt tgcgggttgg gcgaagcaag 1020
 cgcaggccac cattgcctga ttcatcatg agctttgttt tcagtttgca cactgcggtc 1080

tgcgctgaaa	attgcaaaatt	ggaagggtcc	tcttgaggaa	cggaaaaaact	tttgagttgt	1140
aaatgagaca	gtaccccaaa	gagctcatca	cgaggaaagg	gaagctgtaa	aagtaggagg	1200
atctcatgcc	cccatctcat	cgctctattat	tgcttattag	tactgtactg	taatcgcat	1260
tagttgctgt	agggttggtc	aaatttgctaa	tctgattctg	aactaccatg	ctgatgtccg	1320
aaataaaagaa	aaagcatggt	tttttttggt	tcaacttgca	aaattttctt	taaacattgt	1380
gcaatgtatt	gtaaatttct	ctatcaactt	ccctcgattc	agagagaagc	acttgtttgt	1440
aagtcattgaa	agatttttct	cgacaaaaaa	aaaaaaaaa	aaaaaaa		1487

<210> 14
 <211> 345
 <212> PRT
 <213> Triticum aestivum

<400> 14
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 Gly Trp Gln Leu Ala Trp Lys Trp Ser Glu Arg Gln Gly Glu Asp Gly
 20 25 30
 Lys Lys Glu Gly Gly Phe Lys Arg Ile Tyr Leu His Gln Glu Gly Val
 35 40 45
 Ala Asp Ser Arg Arg Gly Ser Val Val Ser Leu Pro Gly Gly Gly Asp
 50 55 60
 Ala Thr Gln Gly Gly Ser Gly Phe Ile His Ala Ala Ala Leu Val Ser
 65 70 75 80
 His Ser Ala Leu Tyr Ser Lys Asp Leu Met Glu Glu Arg Met Ala Ala
 85 90 95
 Gly Pro Ala Met Ile His Pro Leu Glu Ala Ala Pro Lys Gly Ser Ile
 100 105 110
 Trp Lys Asp Leu Phe Glu Pro Gly Val Arg Arg Ala Leu Phe Val Gly
 115 120 125
 Val Gly Ile Gln Met Leu Gln Gln Phe Ala Gly Ile Asn Gly Val Leu
 130 135 140
 Tyr Tyr Thr Pro Gln Ile Leu Glu Gln Ala Gly Val Ala Val Leu Leu
 145 150 155 160
 Ser Asn Leu Gly Leu Ser Ser Ala Ser Ala Ser Ile Leu Ile Ser Ser
 165 170 175
 Leu Thr Thr Leu Leu Met Leu Pro Ser Ile Gly Val Ala Met Arg Leu
 180 185 190
 Met Asp Ile Ser Gly Arg Arg Phe Leu Leu Leu Gly Thr Ile Pro Ile
 195 200 205
 Leu Ile Ala Ser Leu Ile Val Leu Gly Val Val Asn Val Ile Asn Leu
 210 215 220
 Ser Thr Val Pro His Ala Val Leu Ser Thr Val Ser Val Ile Val Tyr
 225 230 235 240
 Phe Cys Cys Phe Val Met Gly Phe Gly Pro Ile Pro Asn Ile Leu Cys
 245 250 255
 Ala Glu Ile Phe Pro Thr Arg Val Arg Gly Val Cys Ile Ala Ile Cys
 260 265 270

Ala Leu Thr Phe Trp Ile Cys Asp Ile Ile Val Thr Tyr Ser Leu Pro
 275 280 285

Val Met Leu Asn Ala Ile Gly Leu Ala Gly Val Phe Gly Ile Tyr Ala
 290 295 300

Val Val Cys Cys Ile Ala Phe Val Phe Val Tyr Leu Lys Val Pro Glu
 305 310 315 320

Thr Lys Gly Met Pro Leu Glu Val Ile Thr Glu Phe Phe Ala Val Gly
 325 330 335

Ala Lys Gln Ala Gln Ala Thr Ile Ala
 340 345

<210> 15
 <211> 1009
 <212> DNA
 <213> Triticum aestivum

<400> 15
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 tgcgggtatc aatggagtcc tctactacac acctcagata cttgagcaag caggtgtcgg 120
 ggtttctctc tcaaacattg gaataagctc ttcttcagca tctattctta ttagtgcctt 180
 gacaaacttg ctgatgcttc ccagcattgg catcgccatg agactcatgg atatgtcagg 240
 aagaagggtt ctctctcctt caacaatccc tgtcttgata gttagcgtag ctgtcttggt 300
 tttagtgaat gttctggatg tgggaacct ggtgcaagct gcgtctcaca cgatcagcgt 360
 catcgtctat tctctgctct tctcctatgg gtttgggctt atcccaata ttctctgcgc 420
 ggagattttc ccacctctg tccgtggcat ctgcatagac atctgcgcgc taacctctg 480
 catcggcgac atcatcgtga catacactct ccccgtagt ctcaatgcca ttggtctcgc 540
 tggagtcttc ggcataatg ccacgttttg tgaactagcc ttgtattcgt tctacatgaa 600
 cgtccctgag aaaaaggcca tggccctgga ggtcctcacc gacttctctt ctgtcggggc 660
 aaacaggggc aagggaagcca cggactagtt gctctgaccc ggtgatccgc gtgcgtggtg 720
 gtaattttct ggtgtcataa ctactactac actggttaac ctgcgatgct ttggtgaaga 780
 aaattcaaa agagcagata cgggaagact tacatcgtga ggtgaattg tgtcgtcgtg 840
 ggcgggttt tggaaagtgg atatgtaact agatcctctg ctctttctgc ttggaactt 900
 tctatttggt ttattcagaa ttctctgccc atgtaactag tgcgtttatc acaatttatg 960
 tgcattatgt gtttgccctaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1009

<210> 16
 <211> 228
 <212> PRT
 <213> Triticum aestivum

<400> 16
 Glu Pro Gly Val Lys His Ala Leu Phe Val Gly Ile Gly Leu Gln Ile
 1 5 10 15

Leu Gln Gln Phe Ala Gly Ile Asn Gly Val Leu Tyr Tyr Thr Pro Gln
 20 25 30

Ile Leu Glu Gln Ala Gly Val Gly Val Leu Leu Ser Asn Ile Gly Leu
 35 40 45

Ser Ser Ser Ser Ala Ser Ile Leu Ile Ser Ala Leu Thr Thr Leu Leu
 50 55 60

Met Leu Pro Ser Ile Gly Ile Ala Met Arg Leu Met Asp Met Ser Gly
 65 70 75 80

Arg Arg Phe Leu Leu Leu Ser Thr Ile Pro Val Leu Ile Val Ala Leu
 85 90 95

Ala Val Leu Val Leu Val Asn Val Leu Asp Val Gly Thr Met Val His
 100 105 110

Ala Ala Leu Ser Thr Ile Ser Val Ile Val Tyr Phe Cys Phe Phe Val
115 120 125

Met Gly Phe Gly Pro Ile Pro Asn Ile Leu Cys Ala Glu Ile Phe Pro
130 135 140

Thr Ser Val Arg Gly Ile Cys Ile Ala Ile Cys Ala Leu Thr Phe Trp
145 150 155 160

Ile Gly Asp Ile Ile Val Thr Tyr Thr Leu Pro Val Met Leu Asn Ala
165 170 175

Ile Gly Leu Ala Gly Val Phe Gly Ile Tyr Ala Ile Val Cys Val Leu
180 185 190

Ala Phe Val Phe Val Tyr Met Lys Val Pro Glu Thr Lys Gly Met Pro
195 200 205

Leu Glu Val Ile Thr Glu Phe Phe Ser Val Gly Ala Lys Gln Gly Lys
210 215 220

Glu Ala Thr Asp
225

<110> 17
<111> 615
<112> DNA
<113> Zea mays

<220>
<221> unsure
<222> (149)

<220>
<221> unsure
<222> (271)

<220>
<221> unsure
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<220>
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<221> unsure
<222> (357)

<220>
<221> unsure
<222> (476)

<220>
<221> unsure
<222> (599)

<220>
<221> unsure
<222> (602)

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gagcgaaccg tcaacgatgg ctcccgctcc gctgccggcg gccatcgagc ccgggaagaa 120
aggcaacgtc aagttcgctc tcgctgcnc catcctcgcc tcaatgacct ccacctctct 180
cggctatgat atcggagtga tgagcggcgc gtcgtgttac atcaagaagg aactgaaaat 240

cagcgaagtg aagctggaga tectgatggg natectcaac gtgtactegc teatcggtc 300
 gttnggggca gggcggagct cggactggat cggncggcgt acaccatcgt gttcgcnegc 360
 gtgatcttct tggcgggggc ttctctcatgg gcttcggcgt gaactactgg atgctcatgt 420
 tggggcgctt cgtggcgggg atcggggtgg gctacggcgt catgatcgca accgtntaca 480
 cggcgaagat gtcccgcat cggccggcgg ctctctgaag tggttccagg aggtgttcat 540
 caattcggca tctcttaggt acgtgtcaat aaggcttttc cgttccggtt cgtcggatng 600
 encraatgtc ggcac 615

<110> 16
 <111> 167
 <112> PFT
 <113> Zea mays

<112>
 <121> UNSURE
 <122> (54)

<112>
 <121> UNSURE
 <122> (65)

<120>
 <121> UNSURE
 <122> (98)

<120>
 <121> UNSURE
 <122> (112)

<120>
 <121> UNSURE
 <122> (151)

<1400> 18
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 Ala Ala Ile Glu Pro Gly Lys Lys Gly Asn Val Lys Phe Ala Phe Ala
 20 25 30
 Cys Xaa Ile Leu Ala Ser Met Thr Ser Ile Leu Leu Gly Tyr Asp Ile
 35 40 45
 Gly Val Met Ser Gly Ala Ser Leu Tyr Ile Lys Lys Asp Leu Lys Ile
 50 55 60
 Ser Asp Val Lys Leu Glu Ile Leu Met Gly Ile Leu Asn Val Tyr Ser
 65 70 75 80
 Leu Ile Gly Ser Xaa Ala Ala Gly Arg Thr Ser Asp Trp Ile Gly Arg
 85 90 95
 Arg Xaa Thr Ile Val Phe Ala Ala Val Ile Phe Phe Ala Gly Ala Xaa
 100 105 110
 Leu Met Gly Phe Ala Val Asn Tyr Trp Met Leu Met Phe Gly Arg Phe
 115 120 125
 Val Ala Gly Ile Gly Val Gly Tyr Ala Leu Met Ile Ala Thr Val Tyr
 130 135 140
 Thr Ala Glu Val Ser Pro Xaa Ser Ala Arg Gly Phe Leu Thr Ser Phe
 145 150 155 160
 Pro Glu Val Phe Ile Thr Ser
 165

<210> 19
 <211> 1914
 <212> DNA
 <213> Sea mays

<400> 19
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 ttccgagagag ctccgaaaag ccgtcagacc caggagaagag ggcaacgtca agtatgcctc 120
 cctatgttcc atccctggctt ccattggcttc tgtcatcctt ggctatgaca ttgggggtgat 180
 gaggaggagag ggcattgtaca tcaagaagga cctgaatata acgggacgtgc agctggagat 240
 cctgatcggg atccctcagtc tctactcgtt gttcggatcc ttccgtggcg ccgggacgtc 300
 cgaagggatc gggcgccggt tgaccgttgt gttcggcgtt gtcattctct tctgtgggctc 360
 gctgctcctg ggtttcggcg tcaactcagg catgctcctg gggggccgct tctgtggcgg 420
 agtccgttgt ggtacggggg gcctgatcgc gccgttgttc acgggacgag tctcgcctgc 480
 ggtgtccgtt ggttccctga ccaccttccc ggaggtgttc atcaacatcg gcctcctgct 540
 ttgtatcctg tccaaacttc cgttcggcggt cctcccgctc cactcgggtt ggccggtcat 600
 gctcgcctat ggccgagctc cgtccggcct gctcgggttc ctgggtgtct gcctgcctga 660
 gtccgctcgg tggctgggtct tgaaggggcc cctcggcgac gccagggttg tctatagagaa 720
 gacctcttcc accgcagagg aggcgcgcga gccgttggcc gacatcaagg ccggcgccgg 780
 gattccgaag ggccctcagc gggacgtagt caccgtaccc ggcaaggagc aaggcggcgg 840
 tgaagtgcag gtgtggaaag agctcctcct gtccccgacc ccggctgtcc gacgcatact 900
 gtccctggcc gtgggtctct actttctcca gcaggcttct ggcagcgact ccgtcgtcca 960
 gtacagagcc cgcctgttca agagcgcggg gatcacagac gacaaccaag tcttggcggt 1020
 cactctggcg gtggcgctga ccaagacgtt cttcatcctg gtggccacgt tcttgcctga 1080
 ccggcgccgg cgtcggcctc tctcgtctat cagcaacggg gggatgattg tctcgtcctc 1140
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 cgtcgcctcg tgcctcgggt caacccctgc ctacatcgcc ttcttctcca tggcctcggg 1260
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 ccttgggttt ttcttctcca cgtgcctccc ggagacacgc ggcgggaagc ttgaggagat 1500
 gggcaagctg ttccgcatgc cagacacggg catgggtgaa gaagcagaag accgcgcagc 1560
 caaggagaag gtgttggaac tgcctagcag caagtagggt gctatcccag agcacaggtc 1620
 aagtgaacta gatggacaag atcattgtct ttcaactaa ttagatgggc aagaataact 1680
 aagactgccc tatgaggtgt cgtggttcaa ccagagatca ttctgctcct ttcttttctc 1740
 ctcccttttt cgagtaacct tccattcgtt cgtggtcagt acgatgttgg gtcttgggga 1800
 gttatgtgtg tcagagtcgc cgtgtgcttt gcaagccagg gctgaaccca caatcctcag 1860
 taacaaaaat tcttcctgtt gctttgcaag ccaaaaaaaaa aaaaaaaa 1914

<210> 20
 <211> 513
 <212> PRT
 <213> Sea mays

<400> 20
 Met Ala Ser Asp Glu Leu Ala Lys Ala Val Glu Pro Arg Lys Lys Gly
 1 5 10 15
 Asn Val Lys Tyr Ala Ser Ile Cys Ala Ile Leu Ala Ser Met Ala Ser
 20 25 30
 Val Ile Leu Gly Tyr Asp Ile Gly Val Met Ser Gly Ala Ala Met Tyr
 35 40 45
 Ile Lys Lys Asp Leu Asn Ile Thr Asp Val Gln Leu Glu Ile Leu Ile
 50 55 60
 Gly Ile Leu Ser Leu Tyr Ser Leu Phe Gly Ser Phe Ala Gly Ala Arg
 65 70 75 80
 Thr Ser Asp Arg Ile Gly Arg Arg Leu Thr Val Val Phe Ala Ala Val
 85 90 95
 Ile Phe Phe Val Gly Ser Leu Leu Met Gly Phe Ala Val Asn Tyr Gly
 100 105 110

Met	Leu	Met	Ala	Gly	Arg	Phe	Val	Ala	Gly	Val	Gly	Val	Gly	Tyr	Gly		
		115					120						125				
Gly	Met	Ile	Ala	Pro	Val	Tyr	Thr	Ala	Glu	Ile	Ser	Pro	Ala	Ala	Ser		
	130					135					140						
Arg	Gly	Phe	Leu	Thr	Thr	Phe	Pro	Glu	Val	Phe	Ile	Asn	Ile	Gly	Ile		
145					150					155					160		
Leu	Leu	Gly	Tyr	Leu	Ser	Asn	Phe	Ala	Phe	Ala	Arg	Leu	Pro	Leu	His		
				165					170					175			
Leu	Gly	Trp	Arg	Val	Met	Leu	Ala	Ile	Gly	Ala	Val	Pro	Ser	Gly	Leu		
			180					185					190				
Leu	Ala	Leu	Leu	Val	Phe	Cys	Met	Pro	Glu	Ser	Pro	Arg	Trp	Leu	Val		
		195					200					205					
Leu	Lys	Gly	Arg	Leu	Ala	Asp	Ala	Arg	Ala	Val	Leu	Glu	Lys	Thr	Ser		
	210					215					220						
Ala	Thr	Pro	Glu	Glu	Ala	Ala	Glu	Arg	Leu	Ala	Asp	Ile	Lys	Ala	Ala		
225					230					235					240		
Ala	Gly	Ile	Pro	Lys	Gly	Leu	Asp	Gly	Asp	Val	Val	Thr	Val	Pro	Gly		
				245				250						255			
Lys	Glu	Gln	Gly	Gly	Gly	Glu	Leu	Gln	Val	Trp	Lys	Lys	Leu	Ile	Leu		
			260					265					270				
Ser	Pro	Thr	Pro	Ala	Val	Arg	Arg	Ile	Leu	Leu	Ser	Ala	Val	Gly	Leu		
		275					280					285					
His	Phe	Phe	Gln	Gln	Ala	Ser	Gly	Ser	Asp	Ser	Val	Val	Gln	Tyr	Ser		
	290					295					300						
Ala	Arg	Leu	Phe	Lys	Ser	Ala	Gly	Ile	Thr	Asp	Asp	Asn	Lys	Leu	Leu		
305					310					315				320			
Gly	Val	Thr	Cys	Ala	Val	Gly	Val	Thr	Lys	Thr	Phe	Phe	Ile	Leu	Val		
				325					330					335			
Ala	Thr	Phe	Leu	Leu	Asp	Arg	Ala	Gly	Arg	Arg	Pro	Leu	Leu	Leu	Ile		
			340					345					350				
Ser	Thr	Gly	Gly	Met	Ile	Val	Ser	Leu	Ile	Cys	Leu	Gly	Ser	Gly	Leu		
		355					360					365					
Thr	Val	Ala	Gly	His	His	Pro	Asp	Thr	Lys	Val	Ala	Trp	Ala	Val	Ala		
	370					375					380						
Leu	Cys	Ile	Ala	Ser	Thr	Leu	Ser	Tyr	Ile	Ala	Phe	Phe	Ser	Ile	Gly		
385					390					395					400		
Leu	Gly	Pro	Ile	Thr	Gly	Val	Tyr	Thr	Ser	Glu	Ile	Phe	Pro	Leu	Gln		
				405					410					415			
Val	Arg	Ala	Leu	Gly	Phe	Ala	Val	Gly	Val	Ala	Ser	Asn	Arg	Val	Thr		
			420					425					430				
Ser	Ala	Val	Ile	Ser	Met	Thr	Phe	Leu	Ser	Leu	Ser	Lys	Ala	Ile	Thr		
		435					440					445					
Ile	Gly	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Gly	Ile	Ala	Ala	Val	Ala	Trp		
	450					455					460						

Val Phe Phe Phe Thr Cys Leu Pro Glu Thr Arg Gly Arg Thr Leu Glu
465 470 475 480

Glu Met Gly Lys Leu Phe Gly Met Pro Asp Thr Gly Met Ala Glu Glu
485 490 495

Ala Glu Asp Ala Ala Ala Lys Glu Lys Val Val Glu Leu Pro Ser Ser
500 505 510

Lys

<210> 21
<211> 1017
<212> DNA
<213> Dryza sativa

<400> 21
attacatgta agctcgtgcb ggcaagagct tacactcgac cgcaactact gtacaaggcc 60
cagagcggagc ctctctctcc tctgcaccac cggagatggc ttccgcgcgc ctgccggagg 120
ccctcgcgcgc gaagaagaag ggcaacgtcc ggttcgcctt cgcctcgcgc atctctcgct 180
ccatgaactc catctctctc ggctacgata tgggggtgat gagcggggcg togetgtaca 240
tcaagaagga ctccaacatc agtgacggga aggtggaggt tctcatgggc atactgaacc 300
tctactcgt catcggctcc ttccgcgcgc ggaggagctc ggactggatc ggccggcggt 360
aacacatcgt gttcgcgcgc ttcattattt tggcgggggs gttctctatg gggttcgcgc 420
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ctctcgtctc gctcgcgcgc atgggtctct gcattcgcgc gtccgcgcgc tggctgttca 720
tgaagggaag cctcgcgcgc gcaagggttg tcttgagaa gacctccgc accgcgcgcgc 780
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ggttcacag cggcgtctat tccatgaact ccttctctgt gtccaaggcc atcaccatcg 1440
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tctctcttaa gtacatgat tttatttttg tctttgcttt gtcgttaaaa gttgtactat 1860
gcgatgaaga ataccagtat gtacgaagc tgaggttggt tctagctact agaagtgtca 1920
gtcagctgtt tcttgttaaga aatgtttaac tgttaattaa gcagctattg tgcagtaac 1980
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaa 2017

<210> 22
<211> 510
<212> PRT
<213> Dryza sativa

<220>
<221> UNSURE
<222> (102)

<400> 22
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Asn Val Arg Phe Ala Phe Ala Cys Ala Ile Leu Ala Ser Met Thr Ser
 20 25 30
 Ile Leu Leu Gly Tyr Asp Ile Gly Val Met Ser Gly Ala Ser Leu Tyr
 35 40 45
 Ile Lys Lys Asp Phe Asn Ile Ser Asp Gly Lys Val Glu Val Leu Met
 50 55 60
 Gly Ile Leu Asn Leu Tyr Ser Leu Ile Gly Ser Phe Ala Ala Gly Arg
 65 70 75 80
 Thr Ser Asp Trp Ile Gly Arg Arg Tyr Thr Ile Val Phe Ala Ala Val
 85 90 95
 Ile Phe Phe Ala Gly Xaa Phe Leu Met Gly Phe Ala Val Asn Tyr Ala
 100 105 110
 Met Leu Met Phe Gly Arg Phe Val Ala Gly Ile Gly Val Gly Tyr Ala
 115 120 125
 Leu Met Ile Ala Pro Val Tyr Thr Ala Glu Val Ser Pro Ala Ser Ala
 130 135 140
 Arg Gly Phe Leu Thr Ser Phe Pro Glu Val Phe Ile Asn Phe Gly Ile
 145 150 155 160
 Leu Leu Gly Tyr Val Ser Asn Tyr Ala Phe Ser Arg Leu Pro Leu Asn
 165 170 175
 Leu Gly Trp Arg Ile Met Leu Gly Ile Gly Ala Ala Pro Ser Val Leu
 180 185 190
 Leu Ala Leu Met Val Leu Gly Met Pro Glu Ser Pro Arg Trp Leu Val
 195 200 205
 Met Lys Gly Arg Leu Ala Asp Ala Lys Val Val Leu Glu Lys Thr Ser
 210 215 220
 Asp Thr Ala Glu Glu Ala Ala Glu Arg Leu Ala Asp Ile Lys Ala Ala
 225 230 235 240
 Ala Gly Ile Pro Glu Glu Leu Asp Gly Asp Val Val Thr Val Pro Lys
 245 250 255
 Arg Gly Ser Gly Asn Glu Lys Arg Val Trp Lys Glu Leu Ile Leu Ser
 260 265 270
 Pro Thr Pro Ala Met Arg Arg Ile Leu Leu Ser Gly Ile Gly Ile His
 275 280 285
 Phe Phe Gln His Ala Leu Gly Ile His Ser Val Val Phe Tyr Ser Pro
 290 295 300
 Leu Val Phe Lys Ser Pro Gly Leu Thr Asn Asp Lys His Phe Leu Gly
 305 310 315 320
 Thr Thr Trp Pro Phe Gly Val Thr Lys Arg Leu Phe Ile Leu Leu Ala
 325 330 335
 Thr Phe Phe Ile Asp Gly Val Gly Arg Arg Pro Leu Leu Leu Gly Ser
 340 345 350
 Thr Gly Gly Ile Ile Leu Ser Leu Ile Gly Leu Gly Ala Gly Leu Thr
 355 360 365

Val Val Gly Gln His Pro Asp Ala Lys Ile Pro Trp Ala Ile Gly Leu
 370 375 380
 Ser Ile Ala Ser Thr Leu Ala Tyr Val Ala Phe Phe Ser Ile Gly Leu
 385 390 395 400
 Gly Pro Ile Thr Trp Val Tyr Ser Ser Glu Ile Phe Pro Leu Gln Val
 405 410 415
 Arg Ala Leu Gly Cys Ser Leu Gly Val Ala Ala Asn Arg Val Thr Ser
 420 425 430
 Gly Val Ile Ser Met Thr Phe Leu Ser Leu Ser Lys Ala Ile Thr Ile
 435 440 445
 Gly Gly Ser Phe Phe Leu Tyr Ser Gly Ile Ala Ala Leu Ala Trp Val
 450 455 460
 Phe Phe Tyr Thr Tyr Leu Pro Glu Thr Arg Gly Arg Thr Leu Glu Glu
 465 470 475 480
 Met Ser Lys Leu Phe Gly Asp Thr Ala Ala Ala Ser Glu Ser Asp Glu
 485 490 495
 Pro Ala Lys Glu Lys Lys Lys Val Glu Met Ala Ala Thr Asn
 500 505 510

00100 23
 00110 1853
 00120 DNA
 00130 Glycine max

04000 23
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 aatgagttat gggacatcca gtaatatgta agtaatttgg ttgttttttt tttgtttttt 1500
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 <211> 523
 <212> PRT
 <213> Glycine max

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 35 40 45
 Ile Gly Val Met Ser Gly Ala Ala Ile Tyr Ile Lys Arg Asp Leu Lys
 50 55 60
 Val Ser Asp Glu Gln Ile Glu Ile Leu Leu Gly Ile Ile Asn Leu Tyr
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 Ser Leu Ile Gly Ser Cys Leu Ala Gly Arg Thr Ser Asp Trp Ile Gly
 85 90 95
 Pro Arg Tyr Thr Ile Val Phe Ala Gly Thr Ile Phe Phe Val Gly Ala
 100 105 110
 Leu Leu Met Gly Phe Ser Pro Asn Tyr Ser Phe Leu Met Phe Gly Arg
 115 120 125
 Phe Val Ala Gly Ile Gly Ile Gly Tyr Ala Leu Met Ile Ala Pro Val
 130 135 140
 Tyr Thr Ala Glu Val Ser Pro Ala Ser Ser Arg Gly Phe Leu Thr Ser
 145 150 155 160
 Phe Pro Glu Val Phe Ile Asn Gly Gly Ile Leu Ile Gly Tyr Ile Ser
 165 170 175
 Asn Tyr Ala Phe Ser Lys Leu Thr Leu Lys Val Gly Trp Arg Met Met
 180 185 190
 Leu Gly Val Gly Ala Ile Pro Ser Val Leu Leu Thr Val Gly Val Leu
 195 200 205
 Ala Met Pro Glu Ser Pro Arg Trp Leu Val Met Arg Gly Arg Leu Gly
 210 215 220
 Glu Ala Arg Lys Val Leu Asn Lys Thr Ser Asp Ser Lys Glu Glu Ala
 225 230 235 240
 Gln Leu Arg Leu Ala Glu Ile Lys Gln Ala Ala Gly Ile Pro Glu Ser
 245 250 255
 Cys Asn Asp Asp Val Val Gln Val Asn Lys Gln Ser Asn Gly Glu Gly
 260 265 270
 Val Trp Lys Glu Leu Phe Leu Tyr Pro Thr Pro Ala Ile Arg His Ile
 275 280 285
 Val Ile Ala Ala Leu Gly Ile His Phe Phe Gln Gln Ala Ser Gly Val
 290 295 300
 Asp Ala Val Val Leu Tyr Ser Pro Arg Ile Phe Glu Lys Ala Gly Ile
 305 310 315 320

Thr Asn Asp Thr His Lys Leu Leu Ala Thr Val Ala Val Gly Phe Val
 325 330 335
 Lys Thr Val Phe Ile Leu Ala Ala Thr Phe Thr Leu Asp Arg Val Gly
 340 345 350
 Arg Arg Pro Leu Leu Leu Ser Ser Val Gly Gly Met Val Leu Ser Leu
 355 360 365
 Leu Thr Leu Ala Ile Ser Leu Thr Val Ile Asp His Ser Glu Arg Lys
 370 375 380
 Leu Met Trp Ala Val Gly Ser Ser Ile Ala Met Val Leu Ala Tyr Val
 385 390 395 400
 Ala Thr Phe Ser Ile Gly Ala Gly Pro Ile Thr Trp Val Tyr Ser Ser
 405 410 415
 Glu Ile Phe Pro Leu Arg Leu Arg Ala Gln Gly Ala Ala Ala Gly Val
 420 425 430
 Ala Val Asn Arg Thr Thr Ser Ala Val Val Ser Met Thr Phe Leu Ser
 435 440 445
 Leu Thr Arg Ala Ile Thr Ile Gly Gly Ala Phe Phe Leu Tyr Cys Gly
 450 455 460
 Ile Ala Thr Val Gly Trp Ile Phe Phe Tyr Thr Val Leu Pro Glu Thr
 465 470 475 480
 Arg Gly Lys Thr Leu Glu Asp Met Glu Gly Ser Phe Gly Thr Phe Arg
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 Ser Lys Ser Asn Ala Ser Lys Ala Val Glu Asn Glu Asn Gly Gln Val
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 <211> 2089
 <212> DNA
 <213> Triticum aestivum

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 gggcaacgtg aggttcgcct tcgctcgccg catcctcgcc tcacatgaact ccacccctcct 180
 cggctacgac atcggcggtga tgagcggagc gtcgctgtac atccagaagg atctgaagat 240
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cgccgcgaag ctggaggaca tgagctcgct gttcggcaac acggccacgc acaagcaggg 1560
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accgttgcta cttccgtggc gtttctctgc atgattagga gaaaaaactg ccggtgggtc 1980
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atattaagta tgtgtattgt aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2089

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<210> 26
 <211> 539
 <212> PRT
 <213> Triticum aestivum

<400> 26

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Cys	Ala	Ile	Leu	Ala	Ser	Met	Thr	Ser	Ile	Leu	Leu	Gly	Tyr	Asp	Ile
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Gly	Val	Met	Ser	Gly	Ala	Ser	Leu	Tyr	Ile	Gln	Lys	Asp	Leu	Lys	Ile
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Asn	Asp	Thr	Gln	Leu	Glu	Val	Leu	Met	Gly	Ile	Leu	Asn	Val	Tyr	Ser
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Leu	Ile	Gly	Ser	Phe	Ala	Ala	Gly	Arg	Thr	Ser	Asp	Trp	Ile	Gly	Arg
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Ile	Met	Gly	Phe	Ser	Val	Asn	Tyr	Ala	Met	Leu	Met	Phe	Gly	Arg	Phe
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Val	Ala	Gly	Ile	Gly	Val	Gly	Tyr	Ala	Leu	Met	Ile	Ala	Pro	Val	Asn
	145				150					155					160
Thr	Gly	Glu	Val	Ser	Pro	Ala	Ser	Ala	Arg	Gly	Val	Leu	Thr	Ser	Phe
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Pro	Glu	Val	Phe	Ile	Asn	Phe	Gly	Ile	Leu	Leu	Gly	Tyr	Val	Ser	Asn
		180						185					190		
Phe	Ala	Phe	Ala	Arg	Leu	Ser	Leu	Arg	Leu	Gly	Trp	Arg	Ile	Met	Leu
	195					200						205			
Gly	Ile	Gly	Ala	Val	Pro	Ser	Val	Leu	Leu	Ala	Phe	Met	Val	Leu	Gly
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	225				230					235					240

Ala Lys Val Val Leu Ala Lys Thr Ser Asp Thr Pro Glu Glu Ala Ala
 245 250 255
 Glu Arg Ile Ala Asp Ile Lys Thr Ala Ala Gly Ile Pro Leu Gly Leu
 260 265 270
 Asp Gly Asp Val Val Pro Val Pro Lys Asn Lys Gly Ser Ser Glu Glu
 275 280 285
 Lys Arg Val Leu Lys Asp Leu Ile Leu Ser Pro Thr Ile Ala Met Arg
 290 295 300
 His Ile Leu Ile Ala Gly Ile Gly Ile His Phe Phe Gln Gln Ser Ser
 305 310 315 320
 Gly Ile Asp Ala Val Val Leu Tyr Ser Pro Leu Val Phe Lys Ser Ala
 325 330 335
 Gly Ile Thr Gly Asp Ser Arg Leu Arg Gly Thr Thr Val Ala Val Gly
 340 345 350
 Ala Thr Asn Thr Val Phe Ile Leu Val Ala Thr Phe Leu Leu Asp Arg
 355 360 365
 Ile Arg Arg Arg Pro Leu Val Leu Thr Ser Thr Gly Gly Met Leu Val
 370 375 380
 Ser Leu Val Gly Leu Ala Thr Gly Leu Thr Val Ile Ser Arg His Pro
 385 390 395 400
 Asp Glu Lys Ile Thr Trp Ala Ile Val Leu Cys Ile Phe Cys Ile Met
 405 410 415
 Ala Tyr Val Ala Phe Phe Ser Ile Gly Leu Gly Pro Ile Thr Trp Val
 420 425 430
 Tyr Ser Ser Glu Ile Phe Pro Leu His Val Arg Ala Leu Gly Cys Ser
 435 440 445
 Leu Gly Val Ala Val Asn Arg Leu Thr Ser Gly Val Ile Ser Met Thr
 450 455 460
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 465 470 475 480
 Phe Ala Gly Ile Ala Ser Phe Ala Trp Val Phe Phe Phe Ala Tyr Leu
 485 490 495
 Pro Glu Thr Arg Gly Arg Thr Leu Glu Asp Met Ser Ser Leu Phe Gly
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 Asn Thr Ala Thr His Lys Gln Gly Ala Ala Glu Ala Asp Asp Asp Ala
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 Gly Glu Lys Lys Val Glu Met Ala Ala Thr Asn
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<210> 27
 <211> 1872
 <212> DNA
 <213> Triticum aestivum

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gctgtctcatt	gatggattgt	ttggataaaa	tttcaagaga	attgtttcaa	gtttgatcc	760
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<210> 28
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 <212> PRT
 <213> Triticum aestivum

<400> 28
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 35 40 45
 Ser Met Ala Thr Ile Val Leu Gly Tyr Asp Val Gly Val Met Ser Gly
 50 55 60
 Ala Ser Leu Tyr Ile Lys Arg Asp Leu Gln Ile Thr Asp Val Gln Leu
 65 70 75 80
 Glu Ile Met Met Gly Ile Leu Ser Val Tyr Ala Leu Ile Gly Ser Phe
 85 90 95
 Leu Gly Ala Arg Thr Ser Asp Trp Val Gly Arg Arg Val Thr Val Val
 100 105 110
 Phe Ala Ala Ala Ile Phe Asn Asn Gly Ser Leu Leu Met Gly Phe Ala
 115 120 125
 Val Asn Tyr Ala Met Leu Met Val Gly Arg Phe Val Thr Gly Ile Gly
 130 135 140
 Val Gly Tyr Ala Ile Met Val Ala Pro Val Tyr Thr Pro Glu Val Ser
 145 150 155 160

Pro	Ala	Ser	Ala	Arg	Gly	Phe	Leu	Thr	Ser	Phe	Thr	Glu	Val	Phe	Ile	
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Asn	Val	Gly	Ile	Leu	Leu	Gly	Tyr	Val	Ser	Asn	Tyr	Ala	Phe	Ala	Arg	
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Pro	Ser	Ala	Leu	Leu	Ala	Leu	Met	Val	Phe	Gly	Met	Pro	Glu	Ser	Pro	
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Arg	Trp	Leu	Val	Met	Lys	Gly	Arg	Leu	Ala	Asp	Ala	Arg	Ala	Val	Leu	
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Ala	Lys	Thr	Ser	Asp	Thr	Pro	Glu	Glu	Ala	Val	Glu	Arg	Leu	Asp	Gln	
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Ile	Lys	Ala	Ala	Ala	Gly	Ile	Pro	Arg	Glu	Leu	Asp	Gly	Asp	Val	Val	
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Val	Met	Pro	Lys	Thr	Lys	Gly	Gly	Gln	Glu	Lys	Gln	Val	Trp	Lys	Glu	
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Leu	Ile	Phe	Ser	Pro	Thr	Pro	Ala	Met	Arg	Arg	Ile	Leu	Leu	Ala	Ala	
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Leu	Gly	Ile	His	Phe	Phe	Gln	Gln	Ala	Thr	Gly	Ser	Asp	Ser	Val	Val	
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Leu	Tyr	Ser	Pro	Arg	Val	Phe	Gln	Ser	Ala	Gly	Ile	Thr	Gly	Asp	Asn	
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His	Leu	Leu	Gly	Ala	Thr	Cys	Ala	Met	Gly	Val	Met	Lys	Thr	Leu	Phe	
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Leu	Leu	Thr	Ser	Thr	Ala	Gly	Met	Leu	Ala	Cys	Leu	Ile	Gly	Leu	Gly	
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Thr	Gly	Leu	Thr	Val	Val	Gly	Arg	His	Pro	Asp	Ala	Lys	Val	Pro	Trp	
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Ala	Ile	Gly	Leu	Cys	Ile	Val	Ser	Ile	Leu	Ala	Tyr	Val	Ser	Phe	Phe	
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Ser	Ile	Gly	Leu	Gly	Pro	Leu	Thr	Ser	Val	Tyr	Thr	Ser	Glu	Val	Phe	
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Pro	Leu	Arg	Val	Arg	Ala	Leu	Gly	Phe	Ala	Leu	Gly	Thr	Ser	Cys	Asn	
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Arg	Val	Thr	Ser	Ala	Ala	Val	Ser	Met	Ser	Phe	Leu	Ser	Leu	Ser	Lys	
	450					455					460					
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Pro	Leu	Glu	Glu	Ile	Gly	Lys	Leu	Phe	Gly	Met	Thr	Asp	Thr	Ala	Val	
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 515 520 525

Asn

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 <211> 729
 <212> PRT
 <213> Arabidopsis thaliana

<400> 29
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 35 40 45
 Val Ala Met Ser Leu Ile Gly Ala Thr Leu Ile Thr Thr Cys Ser Gly
 50 55 60
 Gly Val Ala Asp Trp Leu Gly Arg Arg Pro Met Leu Ile Leu Ser Ser
 65 70 75 80
 Ile Leu Tyr Phe Val Gly Ser Leu Val Met Leu Trp Ser Pro Asn Val
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 Tyr Val Leu Leu Leu Gly Arg Leu Leu Asp Gly Phe Gly Val Gly Leu
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 Val Val Thr Leu Val Pro Ile Tyr Ile Ser Glu Thr Ala Pro Pro Glu
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 Ile Arg Gly Leu Leu Asn Thr Leu Pro Gln Phe Thr Gly Ser Gly Gly
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 Met Phe Leu Ser Tyr Cys Met Val Phe Gly Met Ser Leu Met Pro Ser
 145 150 155 160
 Pro Ser Trp Arg Leu Met Leu Gly Val Leu Phe Ile Pro Ser Leu Val
 165 170 175
 Phe Phe Phe Leu Thr Val Phe Phe Leu Pro Glu Ser Pro Arg Trp Leu
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 Val Ser Lys Gly Arg Met Leu Glu Ala Lys Arg Val Leu Gln Arg Leu
 195 200 205
 Arg Gly Arg Glu Asp Val Ser Gly Glu Met Ala Leu Leu Val Glu Gly
 210 215 220
 Leu Gly Ile Gly Gly Glu Thr Thr Ile Glu Glu Tyr Ile Ile Gly Pro
 225 230 235 240
 Ala Asp Glu Val Thr Asp Asp His Asp Ile Ala Val Asp Lys Asp Gln
 245 250 255
 Ile Lys Leu Tyr Gly Ala Glu Glu Gly Leu Ser Trp Val Ala Arg Pro
 260 265 270
 Val Lys Gly Gly Ser Thr Met Ser Val Leu Ser Arg His Gly Ser Thr
 275 280 285

Met Ser Arg Arg Gln Gly Ser Leu Ile Asp Pro Leu Val Thr Leu Phe
 290 295 300
 Gly Ser Val His Glu Lys Met Pro Asp Thr Gly Ser Met Arg Ser Ala
 305 310 315 320
 Leu Phe Pro His Phe Gly Ser Met Phe Ser Val Gly Gly Asn Gln Pro
 325 330 335
 Arg His Glu Asp Trp Asp Glu Glu Asn Leu Val Gly Glu Gly Glu Asp
 340 345 350
 Tyr Pro Ser Asp His Gly Asp Asp Ser Glu Asp Asp Leu His Ser Pro
 355 360 365
 Leu Ile Ser Arg Gln Thr Thr Ser Met Glu Lys Asp Met Pro His Thr
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 Ala His Gly Thr Leu Ser Thr Phe Arg His Gly Ser Gln Val Gln Gly
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 Ala Gln Gly Glu Gly Ala Gly Ser Met Gly Ile Gly Gly Gly Trp Gln
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 Val Ala Trp Lys Trp Thr Glu Arg Glu Asp Glu Ser Gly Gln Lys Glu
 420 425 430
 Glu Gly Phe Pro Gly Ser Arg Arg Gly Ser Ile Val Ser Leu Pro Gly
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 Gly Asp Gly Thr Gly Glu Ala Asp Phe Val Gln Ala Ser Ala Leu Val
 450 455 460
 Ser Gln Pro Ala Leu Tyr Ser Lys Asp Leu Leu Lys Glu His Thr Ile
 465 470 475 480
 Gly Pro Ala Met Val His Pro Ser Glu Thr Thr Lys Gly Ser Ile Trp
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 His Asp Leu His Asp Pro Gly Val Lys Arg Ala Leu Val Val Gly Val
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 Tyr Thr Pro Gln Ile Leu Glu Gln Ala Gly Val Gly Ile Leu Leu Ser
 530 535 540
 Asn Met Gly Ile Ser Ser Ser Ser Ala Ser Leu Leu Ile Ser Ala Leu
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 Thr Thr Phe Val Met Leu Pro Ala Ile Ala Val Ala Met Arg Leu Met
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 Asp Leu Ser Gly Arg Arg Thr Leu Leu Leu Thr Thr Ile Pro Ile Leu
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 Ile Ala Ser Leu Leu Val Leu Val Ile Ser Asn Leu Val His Met Asn
 595 600 605
 Ser Ile Val His Ala Val Leu Ser Thr Val Ser Val Val Leu Tyr Phe
 610 615 620
 Cys Phe Phe Val Met Gly Phe Gly Pro Ala Pro Asn Ile Leu Cys Ser
 625 630 635 640

Glu Ile Phe Pro Thr Arg Val Arg Gly Ile Cys Ile Ala Ile Cys Ala
 645 650 655
 Leu Thr Phe Trp Ile Cys Asp Ile Ile Val Thr Tyr Ser Leu Pro Val
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 Leu Leu Lys Ser Ile Gly Leu Ala Gly Val Phe Gly Met Tyr Ala Ile
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 Val Cys Cys Ile Ser Trp Val Phe Val Phe Ile Lys Val Pro Glu Thr
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 35 40 45
 Val Leu Leu Gly Tyr Asp Ile Gly Val Met Ser Gly Ala Ile Ile Tyr
 50 55 60
 Leu Lys Glu Asp Trp His Ile Ser Asp Thr Gln Ile Gly Val Leu Val
 65 70 75 80
 Gly Ile Leu Asn Ile Tyr Cys Leu Phe Gly Ser Phe Ala Ala Gly Arg
 85 90 95
 Thr Ser Asp Trp Ile Gly Arg Arg Tyr Thr Ile Val Leu Ala Gly Ala
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 Ile Phe Phe Val Gly Ala Leu Leu Met Gly Phe Ala Thr Asn Tyr Ala
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 Phe Leu Met Val Gly Arg Phe Val Thr Gly Ile Gly Val Gly Tyr Ala
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 Leu Met Ile Ala Pro Val Tyr Thr Ala Glu Val Ser Pro Ala Ser Ser
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 Arg Gly Phe Leu Thr Ser Phe Pro Glu Val Phe Ile Asn Ala Gly Ile
 165 170 175
 Leu Leu Gly Tyr Ile Ser Asn Leu Ala Phe Ser Ser Leu Pro Thr His
 180 185 190
 Leu Ser Trp Arg Phe Met Leu Gly Ile Gly Ala Ile Pro Ser Ile Phe
 195 200 205
 Leu Ala Ile Gly Val Leu Ala Met Pro Glu Ser Pro Arg Trp Leu Val
 210 215 220

Met Gln Gly Arg Leu Gly Asp Ala Lys Lys Val Leu Asn Arg Ile Ser
 225 230 235 240
 Asp Ser Pro Glu Glu Ala Gln Leu Arg Leu Ser Glu Ile Lys Gln Thr
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 Ala Gly Ile Pro Ala Glu Cys Asp Glu Asp Ile Tyr Lys Val Glu Lys
 260 265 270
 Thr Lys Ile Lys Ser Gly Asn Ala Val Trp Lys Glu Leu Phe Phe Asn
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 Pro Thr Pro Ala Val Arg Arg Ala Val Ile Ala Gly Ile Gly Ile His
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 Arg Ile Phe Gln Ser Ala Gly Ile Thr Asn Ala Arg Lys Gln Leu Leu
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 Ala Thr Val Ala Val Gly Val Val Lys Thr Leu Phe Ile Leu Val Ala
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 Thr Phe Gln Leu Asp Lys Tyr Gly Arg Arg Pro Leu Leu Leu Thr Ser
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 Val Gly Gly Met Ile Ile Ala Ile Leu Thr Leu Ala Met Ser Leu Thr
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 Val Ile Asp His Ser His His Lys Ile Thr Trp Ala Ile Ala Leu Cys
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 Ile Thr Met Val Cys Ala Val Val Ala Ser Phe Ser Ile Gly Leu Gly
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 Pro Ile Thr Trp Val Tyr Ser Ser Glu Val Phe Pro Leu Arg Leu Arg
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 Ala Gln Gly Thr Ser Met Gly Val Ala Val Asn Arg Val Val Ser Gly
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 Val Ile Ser Ile Phe Phe Leu Pro Leu Ser His Lys Ile Thr Thr Gly
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 Gly Ala Phe Phe Leu Phe Gly Gly Ile Ala Ile Ile Ala Trp Phe Phe
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 Phe Leu Thr Phe Leu Pro Glu Thr Arg Gly Arg Thr Leu Glu Asn Met
 485 490 495
 His Glu Leu Phe Glu Asp Phe Arg Trp Arg Glu Ser Phe Pro Gly Asn
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 Lys Ser Asn Asn Asp Glu Asn Ser Thr Arg Lys Gln Ser Asn Gly Asn
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 Asp Lys Ser Gln Val Gln Leu Gly Glu Thr Thr Thr Ser Thr Thr Val
 530 535 540
 Thr Asn Asp Asn His
 545